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10/660,978	09/12/2003	Ludmila Cherkasova	200313317-1	6116

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EXAMINER	
KIM, TAE K	

ART UNIT	PAPER NUMBER
2153	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/660,978	CHERKASOVA ET AL.	
	Examiner	Art Unit	
	Tae K. Kim	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35 and 37-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35 and 37-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is in response to the Applicant's response filed on October 15, 2007. Claim 36 have been cancelled by the Applicant. Claims 38 – 44 have been added by the Applicant. Claims 1 – 35 and 37 - 44, where Claims 1, 10, 16, 25, 28, 32, and 44 are in independent form, are presented for examination.

Claim Objections

Claims 38 and 39 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 38 attempts to claim the same limitations as Claim 7. Claim 39 attempts to claim the same limitations as disclosed in Claim 10.

Claim 40 is objected to because of the following informalities: the two paragraphs in the claim state the limitation both regarding a "unique file benchmark" when one paragraph is supposed to be regarding a "single file benchmark." Appropriate correction is required.

Claim Rejections - 35 USC § 101

With regards to the rejections made to Claims 1 - 15 under 35 U.S.C. 101, the Applicant is accurate in stating that the claims are statutory matter per MPEP Section 2106(IV)(B). The rejections to Claims 1 - 15 under 35 U.S.C. 101 are withdrawn.

Response to Arguments

Applicant's argument with respect to Claims 1 and 10, filed on October 15, 2007 has been fully considered but they are not persuasive. Applicant argued:

a) Lumelsky is not directed to techniques for determining an optimal configuration of a media server for supporting the media server's expected workload as recited in Claim 1;

b) Lumelsky fails to teach a service demand profile that comprises a plurality of pairs of information as recited in Claim 28;

c) There is no apparent reason for a person of ordinary skill in the art to combine the teachings in Lumelsky with Drees as recited in Claim 10;

d) Drees does not teach the computing of the service demand as recited in Claim 10;

e) Lumelsky fails to teach generating a workload profile wherein said workload profile comprises, for a plurality of different points in time, identification of a number of concurrent client accesses, wherein the number of concurrent client accesses are categorized into corresponding encoding bit rates of streaming media files accessed thereby and are further sub-categorized into either memory or disk accesses as recited in Claim 32.

Examiner respectfully disagrees with applicant's assertions.

1. With regards to a), Lumelsky is directed to techniques for determining an optimal configuration of a media server for supporting the media server's expected workload. The Service Control Plane (SCP) intervenes between the server(s) and client(s) to

optimize the client's content request by determining if the content requested by the client can be supported by the server that has that content (Col. 8, Line 64 – Col. 9, Line 14). If the quality of service or bandwidth requirements needed by that request exceeds the capacities of the servers with that content, the SCP redistributes that content to other servers that have the resources available to supply that content. The SCP configures the servers connected to it to provide the desired content to support the demands for that content (Col. 8, Line 64 – Col. 9, Line 14). The optimal configuration of a server is determined when it is recognized that the number of requests for content on that server is maximized based on the resources of that server to meet the quality of service requirements for each request. The server establishes the quality of service requirement for each request and configures the server to meet those requirements.

Additionally, Claim 1, as amended, does not recite the determining of an optimal configuration of a media server for supporting the media server's expected workload. It recited only of determining the capacity of the media server based on the workload information of a client request, which is anticipated in the passages cited in the non-final rejection dated July 11, 2007.

2. With regards to b), Lumelsky teaches a service demand profile that comprises a plurality of pairs of information, where each pair comprises an identification of a duration of time and a corresponding computed resource cost of the at least one server configuration for serving the workload over the duration of time (Fig. 9; Col. 12, Lines 2-7; the SCP determines when additional resources are required to meet the service

demands where there are time intervals to determine when one server cannot meet all the demands based on its capacity).

3. With regards to c) and d), Drees discloses of a mathematical equation for determining the demand of a limited resource where there are two different prices based on when the resource is utilized (Col. 1, Lines 41-46). Drees states that the demand costs are computed by multiplying the maximum demand incurred during the billing period by the demand charge (cost per demand) (Col. 1, Lines 39-41). Therefore, the total demand for a system would be the number of requests made at "high-peak" times multiplied by the cost associated with "high-peak" times and the number of requests made at "low-peak" times multiplied by the cost associated with "low-peak" times. The reason to combine the teaching of Drees with Lumelsky is to teach the demand computation based on particular variables associated with that resource. Although Applicant asserts that Lumelsky and Drees are non-analogous art, it is obvious to one skilled in providing computer services that the Drees computation solution is applicable to computing demand for a server where there are two different costs associated with two different types of access.

4. With regards to e), Lumelsky teaches of a workload profile that comprises of, for a plurality of different points in time (Fig. 9; workload viewed in various points of time), identification of a number of concurrent client accesses (Fig. 9; number of client accesses calculated), wherein the number of concurrent client accesses are categorized into corresponding encoding bit rates of streaming media files accessed thereby and are further sub-categorized into either memory or disk accesses (Figs. 10

and 11; Col. 12, Lines 36-41; to fulfill a request the use of any combination of storage, memory, processing power, and bandwidth is determined).

Applicant's additional arguments with respect to Claims 1, 16 – 25, 28, and 32 regarding single file and unique file benchmarks for determining at least one media server's capacity have been considered but are moot in view of the new ground(s) of rejection as stated below.

Claim Rejections - 35 USC § 102

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 28 – 35, 37, and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,516,350, invented by Leon L. Lumelsky et al. (hereinafter "Lumelsky").

5. In the interest of expedited prosecution, the Examiner would like to note that several of the present claims (i.e., Claims 32 – 35, 37, and 43) use functional language to describe claim elements. For example, the terms "operable to" raise questions as to the limiting effect of the functional language that follows them. The Examiner recommends amending the claims to contain positive recitations of the actions performed by the claim elements, rather than merely stating that the elements are "operable to" perform some future act. In the event that a hardware element is intended to contain software, which when executed, causes the hardware element to perform a function, the language of the claim should clearly express that relationship.

In the interest of expedited prosecution, all of these limitations have been rejected below, but Application is encouraged to amend the "operable to" claims so that the claimed functions are positively recited, to ensure that those limitations may be given patentable weight.

6. Regarding Claim 28, Lumelsky discloses a method (Col. 5, Lines 12-15) comprising of receiving workload information identifying an expected workload of client accesses of streaming media files from a server over a period of time (Col. 8, Lines 66-67; Col. 9, Lines 1-8; finds their rate, density and proximity) and determining a service demand profile for at least one server configuration under evaluation for evaluating a capacity of said at least one server configuration for supporting the expected workload (Col. 7, Lines 4-8; monitoring with respect to the performance of multiple end resources and clients and their usage patterns so as to provide parameters on where, when, and how to satisfy a request), wherein said service demand profile comprises a plurality of pairs of information, each pair comprising an identification of a duration of time in said period of time and a corresponding computed resource cost of the at least one server configuration for serving the workload over the duration of time (Fig. 9; Col. 12, Lines 2-7; the SCP determines when additional resources are required to meet the service demands where there are time intervals to determine when one server cannot meet all the demands based on its capacity).

7. Regarding Claim 29, Lumelsky discloses all the limitations of Claim 28 and further discloses a method further comprising of receiving at least one service parameter (Col. 9, Lines 45-50).

8. Regarding Claim 30, Lumelsky discloses all the limitations of Claim 29 and further discloses a method wherein said at least one service parameter comprises information identifying at least one performance criteria desired to be satisfied by said at least one server configuration under the expected workload (Col. 9, Lines 45-50).

9. Regarding Claim 31, Lumelsky discloses all the limitations of Claim 29 and further discloses a method further comprising of evaluating the determined service demand profile for the at least one server configuration to determine whether the at least one server configuration satisfies the received at least one service parameter (Col. 9, Lines 45-50 and 58-64).

10. Regarding Claim 32, Lumelsky discloses a system (Col. 5, Lines 12-15) comprising of a media profiler operable to receive a client access log collected over a period of time for a service provider's site (Col. 10, Lines 21-26; user preferences, such as interactivity level) and generate a workload profile for the service provider's site (Col. 7, Lines 4-8; monitoring with respect to the performance of multiple end resources and clients and their usage patterns so as to provide parameters on where, when, and how to satisfy a request), wherein said workload profile comprises, for a plurality of different points in time (Fig. 9; workload viewed in various points of time), identification of a number of concurrent client accesses (Fig. 9; number of client accesses calculated), wherein the number of concurrent client accesses are categorized into corresponding encoding bit rates of streaming media files accessed thereby and are further sub-categorized into either memory or disk accesses(Figs. 10 and 11; Col. 12, Lines 36-41; to fulfill a request the use of any combination of storage, memory,

processing power, and bandwidth is determined), and a capacity evaluator operable to receive the generated workload profile and evaluate at least one server configuration's capacity for supporting the site's workload (Col. 9, Lines 45-50, mapping requests to the particular server(s) based on factors such as aggregate demand statistics and willingness of the servers to provide the requested services).

11. Regarding Claim 33, Lumelsky discloses all the limitations of Claim 32 and further discloses a system wherein said capacity evaluator is further operable to receive configuration information for said at least one server configuration (Col. 10, Lines 33-39).

12. Regarding Claim 34, Lumelsky discloses all the limitations of Claim 32 and further discloses a system wherein in evaluating said at least one server configuration's capacity, said capacity evaluator determines whether said at least one server configuration is capable of supporting the site's workload in accordance with at least one service parameter (Col. 10, Lines 26-39).

13. Regarding Claim 35, Lumelsky discloses all the limitations of Claim 34 and further discloses a system wherein said at least one service parameter comprises information identifying at least one performance criteria desired to be satisfied by said at least one server configuration under the site's workload (Col. 10, Lines 26-39).

14. Regarding Claim 37, Lumelsky discloses all the limitations of Claim 32 and further discloses a system wherein in evaluating said at least one server configuration's capacity said capacity evaluator is operable to generate a service demand profile for said at least one server configuration (Col. 9, Lines 58-64).

15. Regarding Claim 43, Lumelsky discloses all the limitations of Claim 37 and further discloses that the service demand profile comprises a plurality of pairs of information, each pair comprising identification of a duration of time in said period of time and a corresponding computed resource cost of the at least one server configuration for serving the workload over the duration of time (Fig. 9; Col. 12, Lines 2-7; the SCP determines when additional resources are required to meet the service demands where there are time intervals to determine when one server cannot meet all the demands based on its capacity).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 – 9, 11 – 27, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lumelsky, in view of U.S. Appl. 2002/0029373, filed by Mark Haroldson et al. (hereinafter "Haroldson").

16. Regarding Claim 1, as amended, Lumelsky discloses a method (Col. 5, Lines 12-15) comprising of receiving, into a capacity planning tool (Service Control Plane), configuration information for at least one streaming media server (Col. 8, Lines 66-67; Col. 9, Lines 1-8; monitors the availability of the resources), receiving, into said capacity planning tool, workload information for a workload of client accesses of streaming media files from a server (Col. 8, Lines 66-67; Col. 9, Lines 1-8; finds their rate, density and

proximity), and said capacity planning tool evaluating a capacity of the at least one streaming media server for supporting the workload (Col. 7, Lines 4-8; monitoring with respect to the performance of multiple end resources and clients and their usage patterns so as to provide parameters on where, when, and how to satisfy a request). Lumelsky does not disclose that the configuration information comprises a single file benchmark and a unique file benchmark for the at least one streaming media server.

Haroldson discloses a system and method for calculating usage data related to multimedia broadcasts includes a single file benchmark and a unique file benchmark for the at least one streaming media server (Para. 0005; calculating concurrent connections for a particular server and/or a specific data stream). It would have been obvious to one skilled in the art at the time of the invention to calculate the concurrent connections for a particular server and a specific data stream since one sever can host more than one data stream and likewise, one data stream can be hosted by more than one server. Retrieving this information will allow a content provider to more accurately bill a user based on more accurate usage information for that particular content.

17. Regarding Claim 2, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 1 and further discloses that said configuration information includes identification of size of memory of said at least one streaming media server (Col. 8, Lines 20-22; Fig. 10).

18. Regarding Claim 3, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 2 and further discloses that said configuration information further includes disk configuration of said at least one streaming media server (Col. 12, Lines 26-34; Fig. 10).

19. Regarding Claim 4, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 1 and further discloses that said workload information includes identification of number of concurrent client accesses of said streaming media files over a period of time (Col. 7, Lines 4-8; Fig. 9).

20. Regarding Claim 5, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 4 and further discloses that said workload information further includes identification of a corresponding encoding bit rate of each of said streaming media files accessed (Col. 8, Lines 66-67; Col. 9, Lines 1-2).

21. Regarding Claim 6, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 1 and further discloses that said workload information comprises information from an access log collected over a period of time (Col. 6, Lines 18-21).

22. Regarding Claims 7 and 38, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 1 and further discloses that said evaluating comprises of computing a cost corresponding to resources of said at least one streaming media server that are consumed, in supporting the workload (Col. 10, Lines 45-47, 51-53).

23. Regarding Claim 8, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 7 and further discloses that said computing said cost comprises computing a cost of consumed resources for a stream in said workload having a memory access to a streaming media file and computing a cost of consumed resources for a stream in said workload having a disk access to a streaming media file (Col. 9, Lines 58-64; Col. 12, Lines 26-34).

24. Regarding Claim 9, Lumelsky, in view of Haroldson, discloses all the limitations

of Claim 1 and. Further discloses that said evaluating comprises of computing a service demand for said at least one streaming media server supporting said workload (Col. 8, Lines 66-67; Col. 9, Lines 1-8).

25. Regarding Claim 11, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 1 and further discloses that the method receives at least one service parameter (Col. 9, Lines 58-64).

26. Regarding Claim 12, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 11 and further discloses that said at least one service parameter comprises information identifying at least one performance criteria desired to be satisfied by said at least one streaming media server under the workload (Col. 9, Lines 58-64).

27. Regarding Claim 13, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 12 and further discloses that said at least one performance criteria specifies a minimum percentage of time that said at least one streaming media server is desired to be capable of supporting the workload (Col. 9, Lines 58-67; Co1.10, Lines 1-6).

28. Regarding Claim 14, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 11 and further discloses that said at least one service parameter comprises information identifying a constraint (Col. 9, Lines 58-67; Col. 10, Lines 1-6).

29. Regarding Claim 15, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 11 and further discloses that said evaluating further comprises of evaluating whether said at least one streaming media server satisfies said at least one service parameter (Col. 9, Lines 58-67; Co1.10, Lines 1-6).

30. Regarding Claim 16, Lumelsky discloses a method and system (Col. 5, Lines 12-15) comprising of receiving, into said capacity planning tool, workload information for a workload of client accesses of streaming media files from a server (Col. 8, Lines 66-67; Col. 9, Lines 1-8; finds their rate, density and proximity), and said capacity planning tool evaluating a capacity of the at least one streaming media server for supporting the workload (Col. 7, Lines 4-8; ,monitoring with respect to the performance of multiple end resources and clients and their usage patterns so as to provide parameters on where, when, and how to satisfy a request). Lumelsky does not specifically disclose that this' method would be in computer-executable software code or stored to a computer-readable medium. Lumelsky does not disclose that the configuration information comprises a single file benchmark and a unique file benchmark for the at least one streaming media server.

Haroldson discloses a system and method for calculating usage data related to multimedia broadcasts includes a single file benchmark and a unique file benchmark for the at least one streaming media server (Para. 0005; calculating concurrent connections for a particular server and/or a specific data stream). It would have been obvious to one skilled in the art at the time of the invention to calculate the concurrent connections for a particular server and a specific data stream since one sever can host more than one data stream and likewise, one data stream can be hosted by more than one server. Retrieving this information will allow a content provider to more accurately bill a user based on more accurate usage information for that particular content.

It is commonly known to one skilled in the art at the time of the invention that any method decoding and processing information in an electrical device is executed through program instructions stored in the electrical device; in particular computer-executable software code for servers or computers used to configure information. Furthermore, these instructions are stored in a variety of computer readable media, such as within the device's memory, flash-drives, compact disks, etc. It is obvious to one skilled in the art that any method for decoding or processing electronic information is in the form of program instructions to be read by an electronic device, thus stored in computer readable media. Some of the benefits of using computer readable media to store the program instructions are to allow the electronic device to have more flexibility, such as allowing other processes to run, and to ease the transferability of the instructions, and updates to them, onto the electronic device.

31. Regarding Claim 17, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 16 above. Lumelsky further discloses a code for receiving configuration information for said at least one system configuration (Col. 8, Lines 66-67; Col. 9, Lines 1-8).

32. Regarding Claim 18, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 16 above. Lumelsky further discloses a code for determining whether said at least one system configuration is capable of supporting said workload in accordance with at least one service parameter (Col. 10, Lines 26-39).

33. Regarding Claim 19, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 18. Lumelsky further discloses a code wherein said at least one service

parameter comprises information identifying at least one performance criteria desired to be satisfied by said, at least one system configuration under the workload (Col. 9, Lines 58-64).

34. Regarding Claim 20, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 16 above. Lumelsky further discloses a code for generating a workload profile for the received workload information (Col. 6, Lines 18-21; Col 9, Lines 45-64; Col., 10, Lines 19-26).

35. Regarding Claim 21, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 20 above. Lumelsky further discloses a code wherein the received workload information comprises an access log collected over a period of time (Col. 10, Lines 19-26).

36. Regarding Claim 22, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 20 above. Lumelsky further discloses a code wherein said workload profile comprises of a plurality of different points in time, identification of a number of concurrent client accesses, wherein the number of concurrent client accesses are categorized into corresponding encoding bit rates of streaming media files accessed thereby and are further sub-categorized into either memory or disk accesses (Figs. 10 and 11; Col. 12, Lines 36-41).

37. Regarding Claim 23, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 16 above. Lumelsky further discloses a code for generating a service demand profile for said at least one system configuration (Col. 9, Lines 58-64).

38. Regarding Claim 24, Lumelsky, in view of Haroldson, discloses all the limitations

of Claim 16 above. Lumelsky further discloses a code for evaluating a capacity of a plurality of different system configurations and determining an optimal one of said plurality of different system configurations for supporting the workload (Col. 10, Lines 45-53).

39. Regarding Claim 25, Lumelsky discloses a system (Col: 5, Lines 12-15) comprising of means for receiving configuration information for a plurality of different system configurations (Col. 8, Lines 66-67; Col. 9, Lines 1-8; monitors the availability of the resources), means for receiving workload information for a workload of client accesses of streaming media files from a server (Col. 8, Lines 66-67; Col. 9, Lines 1-8; finds their rate, density and proximity), and means for evaluating the capacity of each of said plurality of different system configurations for supporting said workload (Col. 8, Lines 66-67; Col. 9, Lines 1-8). Lumelsky does not disclose that the configuration information comprises a corresponding single file benchmark and unique file benchmark, wherein said single file benchmark measures capacity of the corresponding system configuration for serving a population of clients that all access a same file, wherein said unique file benchmark measures capacity of the corresponding system configuration for serving a population of clients that all access different files.

Haroldson discloses a system and method for calculating usage data related to multimedia broadcasts includes a corresponding single file benchmark and unique file benchmark, wherein said single file benchmark measures capacity of the corresponding system configuration for serving a population of clients that all access a same file, wherein said unique file benchmark measures capacity of the corresponding system

configuration for serving a population of clients that all access different files (Para. 0005; calculating concurrent connections for a particular server and/or a specific data stream). It would have been obvious to one skilled in the art at the time of the invention to calculate the concurrent connections for a particular server and a specific data stream since one sever can host more than one data stream and likewise, one data stream can be hosted by more than one server. Retrieving this information will allow a content provider to more accurately bill a user based on more accurate usage information for that particular content.

40. Regarding Claim 26, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 25 above. Lumelsky further discloses a means for determining an optimal one of said plurality of different system configurations for supporting said workload (Col. 9, Lines 45-50).

41. Regarding Claim 27, Lumelsky, in view of Haroldson, discloses all the limitations of Claim 26 above. Lumelsky further discloses a means for determining the most cost-effective one of said plurality of different system configurations for supporting said workload according to determined service parameters (Col. 10, Lines 45-53).

42. Regarding Claim 42, Lumelsky discloses all the limitations of Claim 28 above. Lumelsky does not disclose that the configuration information comprises a single file benchmark and a unique file benchmark for the at least one streaming media server.

Haroldson discloses a system and method for calculating usage data related to multimedia broadcasts includes a single file benchmark and a unique file benchmark for the at least one streaming media server (Para. 0005; calculating concurrent connections

for a particular server and/or a specific data stream). It would have been obvious to one skilled in the art at the time of the invention to calculate the concurrent connections for a particular server and a specific data stream since one sever can host more than one data stream and likewise, one data stream can be hosted by more than one server. Retrieving this information will allow a content provider to more accurately bill a user based on more accurate usage information for that particular content.

Claims 10, 39, 40, 41, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lumelsky, in view of Haroldson, and in further view of U.S. Patent 5,778,683 invented by Kirk H. Drees (hereinafter "Drees").

42. Regarding Claim 10, all the limitations are unpatentable over Lumelsky, in view of Haroldson, and in further view of Drees, as stated below per rejection to Claim 39. Claim 10 is the independent form of Claim 39.

43. Regarding Claims 39, 40, and 41, Lumelsky, in view of Haroldson, discloses all the limitations of Claims 1 and 25 above. Lumelsky or Haroldson does not disclose that computing the service demand comprises of the equation

$$Demand = \sum_{i=1}^{K_w} N_{X_{W_i}}^{memory} \times cost_{X_{W_i}}^{memory} + \sum_{i=1}^{K_w} N_{X_{W_i}}^{disk} \times cost_{X_{W_i}}^{disk}$$

wherein the workload W comprises $X_w = X_1, \ldots, X_{kw}$ set of different encoded bit rates of files served in the workload, $N_{X_{W_i}}^{memory}$ is a numl$_{X_{W_i}}$ Kb/s, $cost_{X_{W_i}}^{memory}$ the workload having a memory access to a subset of files encoded at X_{W_i} Kb/s, $cost_{X_{W_i}}^{memory}$ is a cost of X_{W_i} Kb/s, $N_{X_{W_i}}^{disk}$

consumed resources for a stream having a memory access to a file encoded at X_{w_i} Kb/s, $N_{X_{w_i}}^{disk}$ is a number of streams in the workload having a disk access to a subset of files encoded at X_{w_i} Kb/s, , and $cost_{X_{w_i}}^{disk}$ is a cost of consumed resources for a stream having a disk access to a file encoded at X_{Wi} Kb/s .

Drees discloses of a mathematical equation for determining the demand of a limited resource where there are two different prices based on when the resource is utilized (Col. 1, Lines 41-46). Drees states that the demand costs are computed by multiplying the maximum demand incurred during the billing period by the demand charge (cost per demand) (Col. 1, Lines 39-41). Therefore, the total demand for a system would be the number of requests made at "high-peak" times multiplied by the cost associated with "high-peak" times and the number of requests made at "low-peak" times multiplied by the cost associated with "low-peak" times. The reason to combine the teaching of Drees with Lumelsky is to teach the demand computation based on particular variables associated with that resource. Although Applicant asserts that Lumelsky and Drees are non-analogous art, it is obvious to one skilled in providing computer services that the Drees computation solution is applicable to computing demand for a server where there are two different costs associated with two different types of access. If the pricing for services varies upon when or where the services are coming from, then multiplying the number of requests with the associated service rate and combining those products will quickly produce the demand and for that service and

is well within the mathematical concepts that are well known to energy consumption and bandwidth or computer resource consumption.

43. Regarding Claim 44, all the limitations are unpatentable over Lumelsky, in view of Haroldson, and in further view of Drees, as stated above per rejection to Claim 40. Claim 44 is the independent form of Claim 40.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae K. Kim, whose telephone number is (571) 270-1979. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton B. Burgess, can be reached on (571) 272-3949. The fax phone number for submitting all Official communications is (703) 872-9306. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the examiner at (571) 270-2979.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

TKK

January 18, 2008

JASON CARDONE
SUPERVISORY PATENT EXAMINER